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Launching a New Industry

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(A paper read before The Canadian Society of Cost Accountants at Hamilton, Kitchener and Montreal)

THERE is a vast area in the North American Continent known geologically as the Laurentian Shield. This area is full of untold mineral wealth. Five per cent. of it is in the United States, and out of that small section the citizens of that country have already extracted mineral wealth valued at billions of dollars. Ninety-five per cent of this Laurentian Shield, with its practically endless mineral wealth, is in Canada. In this same area are immense and dependable reserves

Notice of Annual and Special Meetings

The annual meeting of The Canadian Society of Cost Accountants will be held in the Windsor Hotel, Montreal, on Thursday, April 10, 1930, at 4 p.m.

A special general meeting will be held at the same time and place to consider a change in the name of the Society.

G. C. Leroux,
Honorary Secretary.

W. A. McKague,
General Secretary.

of water-power. To a lesser degree we find the same situation in the Canadian Rockies. Because of these and other reasons we can look forward to a great industrial development in Canada in the immediate future. It must be one of our principal objects to do what we can to see that this industrial development takes place steadily on sound financial lines. From the experience of the past, we must do our best to foresee the difficulties and dangers of the future, and how they must be overcome and avoided. With this in view, I thought that it would be a good thing for us to review some of the things which must be considered before a new industry is launched.

Market the First Consideration

The acid test as to whether an industry will probably be a success or not is the probability of it paying a fair return on the capital invested in it. Some people affect to think that that is a wrong view, and that an industry is successful or not only as it renders public

service. I submit that the two are generally the same, because, as a rule, the buying public will only continue to pay for a service or a commodity in so far as they find that it is useful to them. This brings us to the first thing that must be considered:

The Market for the proposed Commodity or Service.

The following must be carefully considered:

(A) Present Demand,
or (B) If none, then the Future or Potential Demand,
and (C) Competition from articles already in use.

Will the demand be steady or fluctuating, markets being affected by

(1) Increases or Decreases in Populations;
(2) Changes in Cost of Living;
(3) Fashions;
(4) Seasons of the year.

Costs Must Be Met

The probable purchasing power of the markets for the proposed commodity having been estimated, the selling price must be fixed, but most likely it has been fixed already by outside market conditions. The selling price must cover the cost of the following:

(a) Manufacturing;
(b) Warehousing, Selling and Delivery;
(c) Administration and Internal Finance;
and (d) Borrowed Capitalization;

and must provide for a fair return on the capital contributed by the owners.

If the selling-price is unusually high, be very careful, because someone is certain to try to produce something cheaper.

We must now consider the estimation of these various costs, and probably the most important factor affecting them will be the location of the plant. When considering the Present and Potential Demands, the local market should be considered apart from others, and especially those overseas, as this may have a considerable bearing on the location of the plant.

On the average, it is probable that proximity to markets or to cheap transportation to them by railway or sea, is the most important consideration in deciding on the location of a plant.

Relative Importance

In a pamphlet published by the Metropolitan Life Insurance Company of New York dealing with Industrial Development in Canada and the United States the relative importance of the various factors affecting plant location are given as follows in various industries, the most important being indicated by 1, the next by 2, and the third by 3:

	Food	Textiles	Machinery	Leather	Chemicals
Markets	1	2	1	3	1
Supply of Raw Material	2	....	....	....	3
Transportation	3	....	3	....	2
Labour	....	1	2	1	3
Buildings Available	....	3	....	2	....

As this pamphlet states, "Markets are advanced most frequently as the reasons for the location of plants" in the United States. In Canada we must look not only to the home market, but also overseas, so that the closer a plant is to its markets, or to cheap and rapid transportation to them, the smaller will be the transportation costs, and the better and quicker the service to customers. As the service to customers becomes quicker, so can inventories of manufactured goods be reduced, and less current capital be fastened up in that form of asset.

Labour Supply

The relative importance of the various manufacturing charges in different industries is known, or can usually be estimated very closely. Of those charges, the above statement indicates that Labour is usually the next most important thing to consider. I think that most will agree with me when I say that well-paid efficient labour is the cheapest of all. The slow workman, who has no interest in the welfare of the concern or in keeping up its production, costs as much in Factory Overhead Expense as is saved on his wages. The cheap, inefficient workman is the costliest of all, because of his slowness, waste and spoiled work. The cost of spoiled work includes the direct wages and factory overhead consumed in bringing the material into the condition in which it stood when rejected, the whole cost of bringing it back into its raw state if that is possible, and the unavoidable waste of material during manufacture and reduction to the raw state. Fresh labour-saving devices, and automatic machines which require less and less skill on the part of the worker, are being introduced daily, and this brings about a steady tendency to minimize the importance of labour. Nevertheless, no matter what are the labour-saving devices, or how scientifically a plant is laid out and located, the efficiency of the human element will always have a large and direct effect on production costs. It should be the objective to obtain an adequate, contented, and loyal staff, and to look out for and encourage intelligence, skill and thrifty habits. The necessary quantity of highly skilled and of general labour must be estimated, and the accommodation, housing and amusements of the work-people considered. Here, again, the location of the works is a great consideration. Prevailing wage-scales in different communities must be studied, and that may involve a consideration of food-supplies and general cost of living. Many ore-deposits cannot be worked economically as yet, because the region concerned is so bare of the resources required to support life. On the other hand many pleasant little towns in the basin of the St. Lawrence have such low living costs that efficient labour can be obtained there much cheaper than in such cities as Montreal and Toronto. The great consideration often is as to whether it is cheaper to take the plant to the labour, or to locate the plant most conveniently for the markets or the supply of raw material and bring the labour to the plant. It is a question of comparing labour with transportation costs.

Transportation

When considering transportation costs, location, naturally, is everything. The shorter the distance in time between the sources of raw material and the plant, the more easily can supplies of it be replenished; and, similarly, the shorter the distance in time between

the plant and the market, the more easily and quickly can the purchasers be satisfied, and the purchasers are the people who have got to receive the greatest consideration.

Transportation costs are very much bound up with the bulk and fragility of the raw material and of the finished product. If the raw material can stand a lot of handling and the finished product is bulky, the latter should be manufactured as near as possible to its market, or, if for an overseas market, to the point of shipment. Examples of this are plants for the manufacture of paper-boxes, furniture and machinery. On the other hand, the raw material may be very bulky, or such that the handling of it must be reduced to a minimum, whilst the finished product can be more easily packed, and the process of manufacture has considerably reduced the bulk of the raw material. Examples of this are smelting plants, saw mills, starch factories and food-packing plants, in which cases it is usually wisest to have the manufacturing close to the supply of raw material. If possible, it is best to have the services of more than one line available. Also it is frequently of use to know the basis upon which the freight rates have been developed.

Freight rates predominate in importance when considering transportation costs, but it is almost as important to bear in mind that rapid transportation services keep down the amount of capital tied up in inventories of different kinds, leaving it free for other purposes. We all know how wise it is not to have inventories which are too large, not only because of possible loss due to deterioration and inconvenience to the current capital position, but because a forced realization of inventories is invariably a realization at a heavy loss.

Raw Material

A steady supply of raw material is an essential to success in all manufacturing concerns. Moreover, if that supply is subject to great fluctuations in price, it must be possible for the manufacturing concerns to adjust their selling prices in harmony, and at the same time keep up their sales to the required figures. Where the concern produces its own raw material, possibly by working a mineral deposit, this second problem does not exist, but the first one is always there and is fundamental to the life of the industry. It is for this reason that manufacturers of milk products often have their plants well removed from towns, where local consumption might compete seriously with and affect the continuity of the supply to the factory. Again special care must be taken in the location of a plant, where the finished product, or a by-product, or the waste of another industry is utilized, because it is usually wise to place a plant near to allied industries. Generally speaking, however, the manufacturing operations which follow the primary, the more crude ones, and which involve heavy labour costs and the use of special machinery are less dependent upon nearness to the supply of raw materials. The same applies where the Direct Material charge is relatively small, as compared with the Direct Labour and other manufacturing charges making up the cost of finished goods. From the raw material standpoint the best location for a plant is the one where there is the best combination of factors which make for a steady supply at the lowest cost, testing out the cost not on laid-down cost of the raw materials, but on the finished

product, because in the latter the relative importance of the different raw materials involved is finally disclosed.

We must now consider the actual manufacturing and its principal charges.

Equipment

Firstly, machinery: I submit that the cheapest machinery to the manufacturer is that which is most efficient and up to date. I think that it has been clearly shown that it is false economy to buy at a cheap rate from a possible competitor, second-hand machinery and equipment, effective in its way but not up to date, whilst the possible competitor, having saved something over the scrap-value, uses the proceeds to buy the latest plant, improves his production, and then under-sells the purchaser of his rejected machinery. This seems only common sense and yet, as we know, the mistake has been made in this country in the past. Incidentally, new machinery usually has the smallest charges for repairs, renewals, and depreciations.

The kinds and quantities of machinery to be purchased will be considered, in conjunction with the production required and the routing of the work through the factory, by the promoters of the undertaking and the advisory engineer.

The Machinery leads us to the consideration of Power. The greatest essentials regarding power are that the supply should be adequate and dependable. As a general thing power is cheap in Canada, so that the cost forms a very small percentage of the total cost of the finished product. A manufacturer might be able to save 10% of his power charges by some economy or by having a plant of his own. If his power-costs were 4% of the total cost of his finished product, he would save 1/10 of 4% or 40 cents in every $100. On the other hand, by doing this he might be running the risk of a stoppage of his plant. In the event of a temporary stoppage during the working day this will mean a loss of direct wages, and all factory overhead charges. In the event of a shut-down for a longer period it will involve a loss of at least all the standing factory overhead charges. In both cases there will be a less or greater degree of inconvenience to customers and probable damage to trade. The supply of power must be adequate and dependable.

Power

The cost of the power is the next consideration, and industries dealing with huge masses of raw materials, which require the use of heavy machinery, must always seek cheap power. Examples are pulp and paper mills, saw mills, flour mills, wood and metal working plants. Heating can usually be coupled with power, because they both frequently have the same source whether it be fuel and water or falling water, and indeed the number of plants using electric furnaces is steadily on the increase. Accordingly, industries which require intense heat as well, can consider the two together. Examples are the iron, steel and other metallurgical and refining industries, and plants for the manufacture of bricks, cement, glass, pottery and porcelain. As a general rule it will be wise to think about the following, before coming to a decision in this matter:

(1) Possibility of taking advantage of some public utility service of hydro-electric power;

(2) Proximity to coal mines, oil fields, pipe lines, or supplies of natural gas;

(3) Possibility of developing local water-power sites.

It should be borne in mind that the capital expenditure necessary for the transmission of power is sometimes as great or greater than that for the power plant itself. Some concerns have quite a good revenue from their own hydro-electric power plants by reason of sales to others, but a manufacturer should be careful to avoid capital expenditure in the development of power, which he can never use and never sell: this mistake has been made with disastrous results.

By this time the location of the plant will have been fairly well considered, but there are still some matters which will affect it, and which must be thought over.

Climate is one of the most potent factors in the formation of habits and character. A climate which is conducive to health, comfort, physical vigour, and mental activity is always desirable for a manufacturing plant. In this respect Canada has great advantages.

Relative Advantages of Different Types of Community

The general location of a plant having been settled, the question may arise as to whether it is better to place it in some small town, in a suburb of a large city, or in the large city itself. The attraction to a small town is often cheap land, but as a rule it is more important to have good accessibility for the labour supply. A concern might quite easily pay far more in extra wages in a few years than the ostensible saving in the cost of the factory site. A payment of $1 per week extra in additional wages to 10,000 employees, because of the distance they must travel to reach the works, means an extra expenditure of over $50,000 each year; and probably there is no time which work people grudge more than that which they lose going to and from their work.

The relative importance of the following local features must be taken into account before deciding on the exact site for the factory:

	S	C	(1) Shipping facilities for supplies and markets, railway tracks, etc.
	S	C	(2) Adequacy, character, and convenience of labour supply;
R	S		(3) Character of site, contour of ground, soil conditions for foundations, etc., shape of plot for present and future uses;
R	S		(4) Room for expansion;
R			(5) Building and other restrictions;
	S	C	(6) Nearness to allied industries;
	S	C	(7) Public improvements, sewers, power lines, water and gas supplies, roads and paving, local transportation facilities;
R	S		(8) Land values;
R	S		(9) Local taxes, etc.;
R			(10) Disposal of waste;
R	S		(11) Smoke, dust, dirt, odour or noise;
	S	C	(12) Postal and express service.

Of these, the small town or rural site will usually have the advantage in those marked with an R, the suburban with an S, and the city with a C. As a general thing a suburban site will be the one preferred, but the rural comes a close second.

Planning the Work

The planning and organization of the works calls for a great deal of thought; the first consideration must be the routing of the work, so that it passes from one department to another with a minimum of transportation and loss of time. Success or failure in this is vital to the welfare of the whole concern, and the architect and all who help to guide the planning must be thoroughly conversant with the needs of the industry concerned. They must be experts, and may, of necessity, be specialists. Matters, such as lighting and ventilation, which will have a big effect on the standard and volume of production, must be borne well in mind. The building material to be used will be decided by what is available and the nature of the work to be done. There are many other considerations far too numerous for me to mention here, but which will suggest themselves to the architects and organizers. The organization of the personnel for administrative purposes, the wage-systems to be used which will so directly affect production, and other matters relating to internal organization might be considered by the management, at the same time as the organization of the plant for the routing of the work.

I would suggest the following headings as useful in the approach of the building problems:

(1) **Product,** nature and quantities to be produced, analysis of processes of production;

(2) **Plant Layout and Problems of Production,** departmentalization and floors to be used, location of machinery and equipment, power supply and transmission, shop transportation;

(3) **Buildings required,** number and type, materials to be used, heating, lighting, ventilating, sanitation, water-service, sewers, fire appliances, etc.;

(4) **Administration,** planning of General Office and its location, shipping and warehousing departments, minor offices required in the plant, entrances and exits, elevators;

(5) **Employees,** personnal department, hospital, rest and recreation rooms, cafeteria, club athletics;

(6) **Architectural Design and Surroundings.**

I have added the last because sometimes with very little extra expense it is possible to have a factory which is not too much of an eye-sore and has a nice setting. The effect of a shapely chimney, a good main entrance, and a few flowers and banks of grass is wonderful, and usually forms very good advertising. The public remember the building and with it the product, and the majority of the workpeople will prefer it.

However, there must be a most careful study of costs as to whether the proposed plans are justified, when considered in relation to the whole concern. It may be necessary to modify the programme, but this should be done with an ultimate development along the best lines always in view.

Scope of the Business

The scale on which the business is to be commenced must then be considered. This will vary with the industry, the necessary capital investment in the plant, the factory overhead charges to spread over production, markets, and so on. The following extract from "The Integration of Industrial Operation," by W. L. Thorp, issued by the Census Bureau Department of Commerce, Washington, gives in its first group those industries which tend towards large-scale operation, and in its second those which lend themselves to small-scale operation:

"1. Industries which require a large capital investment, particularly in plant and equipment: sugar refining, copper smelting, steel mills.

"2. Industries which are monopolies, and which have a sufficiently large market to make operation on a large scale feasible. This includes artificial monopolies, such as those based on patent rights, as well as the monopolies by nature: public utilities, the manufacture of ice, etc.

"3. Industries in which a natural resource is required, and in which that natural resource is limited in amount and localized in geographical distribution: the manufacture of lead and zinc products.

"4. Industries in which the product is capable of standardization, and particularly in which a test for quality is required: sugar, salt, meat packing, etc.

"5. Industries in which the product is highly complex and can be constructed, therefore, only by an intricate fabricating system, or a large and diversified organization: typewriters, adding machines, textile machinery, and automobiles.

"6. Industries in which the product is large in size, requiring complex equipment for construction and large capital investments: shipbuilding, locomotives, ordnance."

On the other hand are the industries which lend themselves to small-scale operation. These are classified as follows:

"1. Industries whose product cannot be standardized and establishments which attempt to make products to suit the differing tastes of consumers. Such industries produce 'tailored' suits, high-grade furniture, art goods, finely bound books, etc.

"2. Industries producing for a small market, such as those manufacturing artists' materials, nets and seines, models and patterns.

"3. Industries in which the local market is small and whose product has a high transportation cost. In the manufacture of artificial-stone products, or bricks in many localities, the activity could never be conducted on a large scale.

"4. Industries in which the material used is widely scattered and cannot be concentrated because of high transportation cost or rapid deterioration. Cheese factories and cider mills may be included in this class.

"5. Industries in which skilled labor is the chief element, such as engraving, job printing, etc., whose products are really services rather than commodities."

Capital Requirements

From the information which has been compiled, the promoters must estimate the capital investment necessary in order to start the

industry on a satisfactory basis. They will require funds for the following:

(a) Fixed Tangible Assets, Land, Buildings, Machinery, etc.;

(b) Fixed Intangible Assets, Goodwill, Patent Rights, etc.;

(c) Current Capital for Wages, Inventories, Trade Debts, Expenses, etc.;

(d) Organization and Development Expenses.

They must decide how much of this capitalization is to be raised by the issue of Ordinary and Preferred Shares, and how much is to be borrowed by an issue of Bonds or Debentures.

Lastly, they must estimate the expenses and charges necessary for production on the scale upon which they have decided; they must estimate the sales necessary to make a profit which will give a fair return on the total capitalization; and they must judge whether they can get markets for these sales. In this connection, may I remind you of the markets of the British Commonwealth, which are willing, nay anxious, to buy Canadian goods.

You see, gentlemen, we finish where we began, by comparing costs with proceeds of sales—the final acid test of success or failure.

Before I close, there is one thing that I must emphasize. The best paying business proposition in the world, organized to perfection, can be ruined by bad management. There must be good management for the industry to be launched, or disaster, of some kind, is certain. On the other hand, nothing was ever achieved without someone taking some risk, and given a good proposition and good management, the risks are reduced to a minimum.

I fear, gentlemen, that I have been unable to do more in the time available than give a very general treatment of this great and vital subject. However, if I have suggested lines of enquiry, which may be of use to any of us in our great task of doing all in our power to help forward the development of Canadian industry on sound financial lines, I am content.

REPLACEMENT

A story is told concerning a business man who once had a serious fire at his shop. He called upon the insurance company, explaining the details, and asked if he could then and there be paid in cash. The manager explained that this could not be done, and if he would refer to his policy, he would see that they did not pay in cash, but after making the necessary enquiries they would at once replace all his fittings, stock, etc. He appeared greatly astonished, but saying nothing, walked out of the office. The following morning the insurance company received a letter from him asking them to cancel the policy on his wife's life.

"My son," said Lord Leverhulme in an address, "says I only know two tunes; one is 'God Save the King,' and the other isn't."

A new fire alarm rings when operated by the smoke of a cigar. We don't know this alarm, but we think we know the cigar.—*Punch.*

Preparation and Taking of Inventory

By C. H. BLACK,
Dunlop Tire and Rubber Goods Co., Ltd., Toronto

(Before Toronto Chapter, December 11, 1929)

DECEMBER seems to be a timely month to consider this subject, as most of us at this time are thinking of, or planning for what to some is more or less a nightmare, containing long hours of extra work at very high pressure, that is, the annual factory clean-up and inventory.

After giving the title considerable thought, I came to the conclusion that the particular proposition that our membership was interested in was not so much the day by day operation for perpetual inventory with the many methods of continual checking of various sections to prove and keep it correct, but the plans used in handling an actual physical inventory, and will confine my remarks for this evening to physical inventories only. To cover the whole subject of Inventories it will be necessary to enlarge on the paper's title and in addition explain the method of pricing so as to give a correct picture of values at the date of the closing.

In the plant with which I am connected we prepare a monthly profit and loss. Two months are taken from book figures for stock value, and the third month from an actual inventory. Four inventories a year may appear to some of you as rather a large proposition, but when properly organized becomes more or less routine work within a department, and the production loss is kept to a minimum as the recording of the inventory in the plant requires approximately one-half day each quarter, or in all, less time than in the old days, when we made an annual clean-up and prepared only one inventory a year.

Save Time By Careful Planning

To accomplish these results it was very necessary to prepare plans which fixed responsibilities and distributed duties, and through a continual check up on delays of various kinds and revision of method where required, we have been able to reduce the time necessary to the figure mentioned previously. We issue definite general instructions re inventory, and copies are sent to all foremen, inspectors and clerks who have any responsibility whatever in the actual taking of, or recording, so that the inventories of the various departments when completed will be nearly uniform in arrangement. Any other help required in the taking of the inventory, are workmen carefully chosen for their knowledge of the class of materials under review.

Materials included represent all goods received up to the date of the inventory. All invoices dated prior to the date of the inventory are treated as invoices of the next quarter, if the goods are not received before the inventory date. This is accomplished by clearing all receiving tickets up to the date of the inventory, as great care is

taken to see that receiving slips are issued for all materials received up to that date. If any shipments are made while the inventory is in progress, they are included in the inventory and the shipping order is treated as being of the next quarter. All debit memos for materials at outside points are checked up and inventoried. This represents the inventory of materials at locations other than our plant.

At each inventory period, consignment accounts which may be a portion of, or all the stock warehoused with a distributor is credited and taken into the inventory of the branch affected, or the factory, and again charged out on the first day of the next quarter. The original credit and invoice for this transaction is not mailed, as they merely represent entries to bring these goods back into your own stock. Yearly the branch inventory is taken in duplicate, and the two copies are priced and extended, the original at factory cost, and the duplicate at branch price, the difference between these two representing the amount of your Branch inventory reduction. For the rest of the year this reduction figure is arrived at by using a percentage on cost as shown by the two inventories already mentioned.

Instructions to Branches

The instructions to the branches are very definite. These set up the various classifications of stock, so that the sheet arrangement of all branches are the same. By carefully following the plan outlined to them, it is almost impossible for a branch to produce other than an inventory which fills all the requirements of head office. Goods are always recorded as catalogued, and costs for pricing are made in the same way. That is, "Materials sold by the pound or foot are entered in this way, and it is very seldom that we have an occasion to point out to any of our branches that they have departed from our standard instructions." Branches are also responsible for the recording of goods in transit, between the factory and the branch. They accomplish this by referring to the last invoice number of the period. This is advised to them by head office as soon as the billing of all shipments for the period have been completed. This portion of the inventory is recorded in a section by itself, and upon receipt of the original inventory from the branch this section is immediately thoroughly checked by responsible clerks at head office who are guided by branch copies of invoices for which receiving sheet are outstanding.

Numbered tags are furnished to the various departments, and are used for the purpose of recording stock. These tags consist of two portions, a stub and a main tag, which is perforated so that it may be easily removed. These tags have printed headings which are a guide to the information required. They are attached to the material being inventoried and are not removed until the whole inventory of the department is completed. The department is then inspected to see that everything has been tagged, thus assuring a complete inventory of the section. The perforated portion of these tags are then removed and the inventory sheets are written up from this information and the tags are later checked by numbers to assure you that every tag has been accounted for. Tag numbers are also recorded in the inventory, so that if any question comes up about any item you may trace back to the original material inventoried. In writing up the sheets for the factory, the instructions are such that certain classifi-

cations are set up, so that raw, finished goods and work in process are entered on separate sheets. Obsolete stocks, old or short ends, are entered on separate sheets and on every other line, the second line being used to make a note of its condition, and the reason for so considering it, so that the office will be properly guided in pricing these items. Under no circumstances is any movement of materials from one department to another allowed while an inventory is in progress. To transfer goods, the departments interested must wait until their inventories are completed, signed and forwarded to the office.

We have as much inventory work as possible done beforehand. Where it can be arranged, materials of a like nature are grouped together. Broken rolls of gum stock or friction, also rubber batches if slow moving, are weighed and tagged; materials in stock bins are counted or weighed previous to the inventory and adjustments made for new stock received or issued. Number sheets are prepared previous to the writing of the inventory, and all sheets whether used or unused must be accounted for. Clerks are also supplied to each department to write up the sheets, and the original entered sheets are carried right through without any rewriting in the office.

I have not gone into any detail of the checking of actual inventory against perpetual inventory quantities, but this is followed very close, and where differences appear, physical quantities are rechecked and inventory cards audited to assure us that the new inventory is a correct record at this date.

Pricing of Materials

The material prices used by us for the purpose of figuring costs are the average price of material for a three months' period. These prices may be arrived at from values of material on hand, if the quantity of a given kind is equal to our estimated three months consumption, or they may represent the quantity on hand plus enough of forward purchases to cover the three month period. When these prices are established, factory costs are compiled for our complete line using standard or current labor and a pre-determined overhead. Our labor costs fluctuate very little, as most of our operations are on a piece work basis, and by monthly checking of our Productive Labor against our output we are able to establish a factor which we use to adjust this variation. At the time of building up our costs we also arrive at the value of materials processed to various operations as a basis of pricing our work in process. All of this information is recorded on pricing sheets, so that in the actual pricing of the inventory the clerks on this work are not delayed in referring to the original cost cards except in very rare instances. Manufactured goods and work in process are always taken at factory cost, which as explained above, represents the average factory condition over the current three months' period.

Raw materials on hand at each inventory period are priced at cost or market, whichever is the lower. We first check our perpetual inventory record of prices with the purchasing department and secure a record of market variations downward and make the necessary adjustments on our records and use this final information to price all raw materials in the inventory.

Forward purchases which are above market are given no consideration in any of our closings, but are taken care of and the adjustment in price made in the quarter in which these materials are received. Some may feel that consideraiton should be given these forward purchases currently at each inventory period; we however feel that under our method of adjusting quarterly the figure for inventories as shown in our balance sheet is very conservative.

The inventory sheets used by us, both for factory and branches, have a perforated strip attached. The pricing is all on the main inventory sheet. The first extensions, however, are made on the perforated strip. This is later torn off and the sheets are again passed out to another operator and the extensions are made on the inventory sheet itself. This sheet is later compared with the strip, and if both sheet and strip show the same total the inventory sheet is initialed as correct. This method is very accurate, as no two operators are liable to make the same error, and since its use we have eliminated the possibility of the wrong placing of a decimal point, which is one of the greatest sources of error in checking extensions. For inventory extensions we engage several extra expert comptometer operators and make a very quick clean-up on this extra work.

After all extensions are completed and sheets compared with strips they are arranged by departments and branches. The whole inventory is then marked for classification and the final summary prepared showing the necessary raw material, manufactured and work in process totals. The inventory, consisting of approximately twelve hundred sheets with summaries, are always ready not later than the fifteenth of the following month, which is fairly early when you consider that Vancouver is one of our branches.

Preparation and Taking of Inventory

By J. A. PARKHILL,
Canadian Wm. A. Rogers Limited, Toronto

(Before Toronto Chapter, December 11, 1929.)

EVERY person connected with the Inventory, should have their work up to date, and in such shape that they can immediately work on the inventory cards when they are returned from the factory.

Inventories, because they affect the profit and loss, are very vital to any business, and because of this, it is very essential that they be properly taken.

In our plant, finished merchandise and stores are divided into twelve sections, one section being taken physically each month. In this way, each item is inventoried once a year. The office records or book inventories are, if necessary, adjusted to agree with the physical inventory, any large differences being, of course, checked.

Process, supplies and raw materials are inventoried at the end of each fiscal year. We use numbered cards printed with a perforated stub at the top, the stub bearing the same number as the card. At the right hand side there is a column marked "For Office Only." These cards are issued to the foreman of each department, together with a

rough sketch showing location of the section he is responsible for taking inventory, also a memo of the number of cards allotted to him.

When an item has been counted, the name of the article is put on both the card and the stub, together with weight, quantity, etc., or any other information desired. The stubs are then retained in the department, and the cards are sent to the office. Should anything appear wrong with regard to weight, quantity, etc., it is an easy matter to take the card to the foreman whose initials are on it, and he can readily check back to the stub which is with the article, and rectify any errors.

When the inventory is taken and the cards are returned to the office, they are checked to make sure that all cards have been returned. When this is done, they are sorted into sections and then into sub-sections. The cards are then filed in a vertical position. Colored tabs are used to mark the sections, and a different colored tab to mark the sub-sections. The inventory is now ready for figuring.

For process stock on factory order numbers, it is sometimes necessary to figure the detail on a separate form, the hours worked plus overhead rate, plus materials. The total is then entered on the card. For accessories, the price is put on the card and the extension made right there. This method saves labor copying to office records and checking records back to cards. It also eliminates the chance of errors in copying.

When pricing inventory, market price or cost, which ever is the lowest, should be used. This is very important. All obsolete stock should be priced accordingly.

When the cards have all been extended, totalled and checked, a recap is taken of each section and sub-section on the adding machine tape, and same is attached to their respective summary cards.

To make sure that no cards have been lost or misplaced while in the process of figuring, they are renumbered with a numbering machine, and if the total number of cards agree with the number issued, the inventory is complete.

MARGIN OF PROFIT IN CANADIAN MANUFACTURING

Canadian industries operated at a higher margin of profit in 1928 than in any of the post-war years. The interest on capital expenditure of 23,379 industries reporting the Bureau of Statistics in 1928, after allowance had been made for cost of material, wages and salaries, was 22.2 per cent. as compared with 21.7 per cent., 21.4 per cent., 20.0 per cent., 19.6 per cent., 21.8 per cent. and 21.2 per cent. for the years 1927, 1926, 1925, 1924, 1923 and 1922, respectively.

The capital investment in Canadian industries has increased steadily from $3,244,302,410 in 1922 to $4,780,296,049 in 1928. In a preliminary survey of the manufacturing industries of Canada in 1928, the Dominion Bureau of Statistics reports that the gross value of manufactured products of 23,379 reporting industries was $3,769,847,-364, that the aggregate invested capital was $4,780,296,049, and that 658,023 persons with an annual payroll of $755,365,772 were employed in these industries.

The Trend of Production Costs

By W. A. McKAGUE,
General Secretary, The Canadian Society of Cost Accountants

IN this period of business dullness, which dates back to August last, prices of many commodities are being forced down to such an extent as to cause real concern to the sales department, which turns to the production department to make up the margin which is necessary for the successful conduct of business. So long as orders are on a reduced scale, this undertaking is difficult, and lower profits are the rule in annual statements which are now making their appearance. Reduction in inventory values very often weighs on the wrong side of the profit and loss statement.

The close trimming of production costs in a period such as this, however, achieves savings which go to swell the profits in those good times which always return to any industry which is in the path of progress. This has happened time and again in Canada as in other countries.

A series of charts herewith illustrate the general trend of production costs since 1920, which year witnessed the peak of prices, and which was followed immediately by a severe slump. Compared with that period, the later changes have been comparatively slight. From 1924 to date has been a time of relative stability and growth. The present movement may not be over, and it has already proved severe enough to constitute one of the most important turning points in recent years, but business leaders do not look for any drastic slump. A break in the stock market coincided with a reaction in certain industries such as pulp and paper and automobile manufacturing, while in Canada the influence of a short grain crop, and subsequent weakness in prices, was added. The next six months may see this recession continue or even grow more severe, or may see it turn towards prosperity, according to our crop yields and prices, the performance of the security markets, and the trend of fundamental industries.

The first chart, on Production Costs, brings together the trends of interest rates, wages, and costs of materials.

The trend of interest rates is illustrated by the prevailing yield on Canadian government bonds; though other borrowers of lower credit have to pay more, the main trend is about the same. The yield on government issues declined from around 6½ per cent. at the end of 1920 to below 4½ per cent. two years ago. Then, in a period of tightening money, it advanced again to five per cent., but with business demands again slacker, it has already declined a little. Business borrowers, in the past two years, had to pay advancing rates whether they borrowed on mortgage or similar security, or used temporary loans from their bank. Now money has again become more plentiful, and both the investment houses and the banks are looking for outlets for funds. The trend of interest rates affects costs, or profits, of all concerns through their bank loans at least, and figures in the overhead of those which borrow from investors. The practice of the Canadian banks, of course, is to make only slight changes in the rates, while across the line there is a much greater range. Rates on securi-

ties vary equally much in Canada, however. The business concern must figure interest on its capital, if not as an item in cost, at least as a standard for comparing profit.

The cost of labor has been relatively stable. This index is a figure compiled by the Department of Labour, Ottawa, from wages in six representative classes of labor, and it is expressed as a percentage of the 1913 level. In 1920 the rates reached nearly double the figure of 1913. There was a decline to 179.7 in 1925, but the activity which then set in brought wages up again, and for 1929 they were calculated at 192.7 per cent. of their 1913 level. This represents the trend per hour, per day or per week. It does not take into consideration changes in efficiency due to improvement by the worker himself or to his equipment and surroundings.

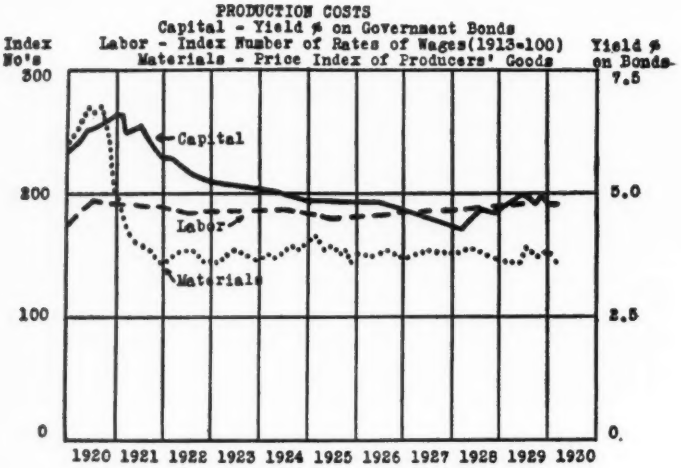
Materials, which are also measured on the basis of 1913, dropped from approximately 270 per cent. in the peak of inflation in 1920, to 140 per cent. by the end of 1921. Since then there have been comparatively slight fluctuations, within the limits of 140 per cent. and 160 per cent. This is practically the same as the general price level of commodities, which in recent years has averaged about 50 per cent. over 1913. A very large proportion of the commodities entering into a general price index, are materials for manufacture and other types of production. The downward trend, which set in last autumn, can be noted from the chart.

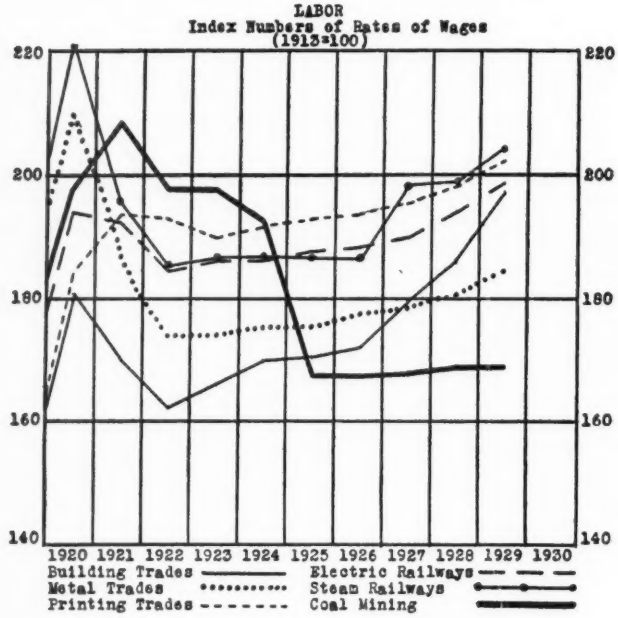
It is apparent from this first chart that labor has made a material gain in its wage-purchasing power, since it now has nearly double the wage rates of 1913, while commodity prices are scarcely 50 per cent. ahead. Interest rates, at 5 per cent. now compared with about 4.3 per cent. in 1913, are about 16 per cent. ahead.

Chart Number Two shows in detail, the wage trends for the six classes of labor entering into the general wage index. These are: building trades, metal trades, printing trades, electric railways, steam railways, and coal mining. The first five follow the general average, dropping from maximum rates reached in 1920 or 1921, to somewhat lower levels in the years immediately following, then recovering most or all of their loss. It will be seen that the building trades, the printing trades, and electric railway workers have got ahead of their former maximum. Steam railway workers and employees in the metal trades (which of course includes ammunition workers) are still below their peak. The coal miners are the exception, having recovered only a very slight part of their big loss.

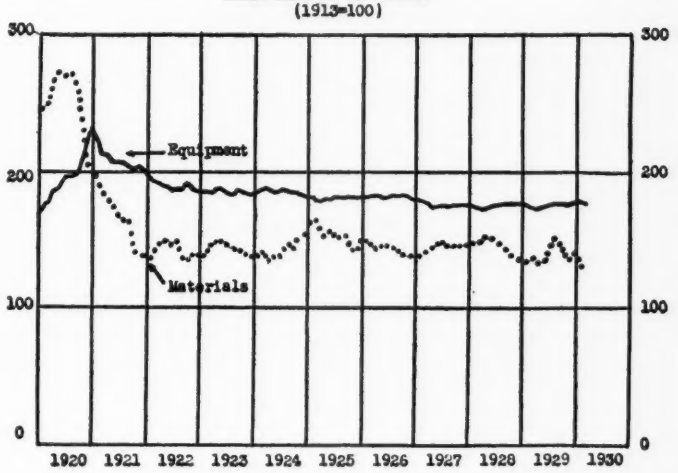
It may be of interest at this stage to give the following detailed comparison for the above six and their average, also three other trades not covered in the chart:

	1913	1920	1929
Building Trades	100.0	180.9	197.5
Metal Trades	100.0	209.4	184.6
Printing Trades	100.0	184.0	202.3
Electric Railways	100.0	194.2	198.6
Steam Railways	100.0	221.0	204.3
Coal Miners	100.0	197.7	168.9
Average of above six	100.0	197.8	192.7
Common Factory Labor	100.0	215.3	187.8
Miscellaneous Factory Trades	100.0	216.8	202.1
Logging and Sawmilling	100.0	202.7	185.6

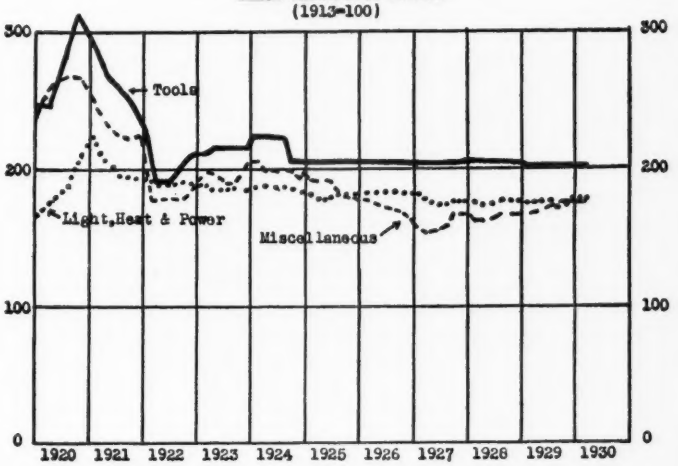

PRODUCTION COSTS
Capital - Yield % on Government Bonds
Labor - Index Number of Rates of Wages(1913=100)
Materials - Price Index of Producers' Goods
Index No's
Yield % on Bonds
300
200
100
0
7.5
5.0
2.5
0.
Capital
Labor
Materials
1920 1921 1922 1923 1924 1925 1926 1927 1928 1929 1930


LABOR
Index Numbers of Rates of Wages
(1913=100)
220
200
180
160
140
1920 1921 1922 1923 1924 1925 1926 1927 1928 1929 1930
Building Trades
Metal Trades
Printing Trades
Electric Railways
Steam Railways
Coal Mining

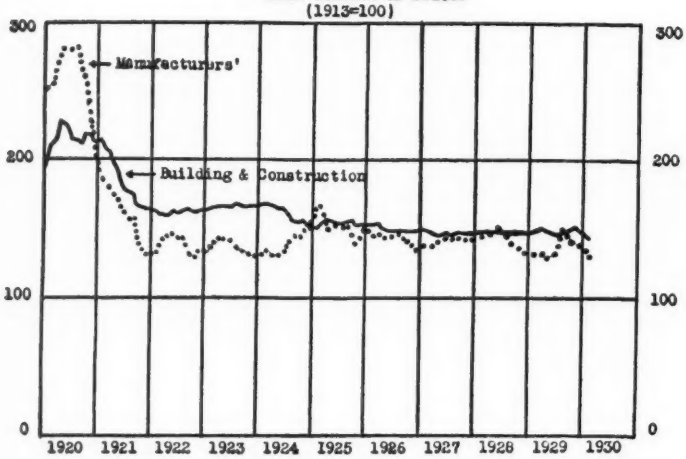
PRODUCERS' GOODS
Index Numbers of Prices
(1913=100)



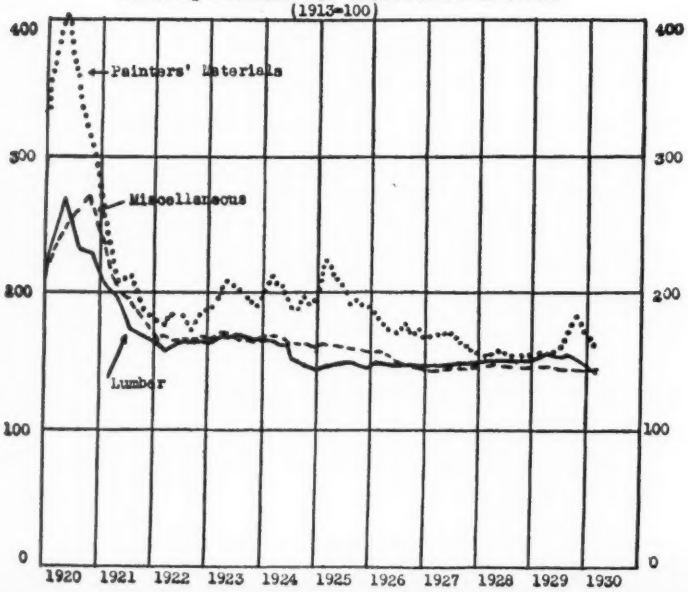
PRODUCERS' EQUIPMENT
Index Numbers of Prices
(1913=100)



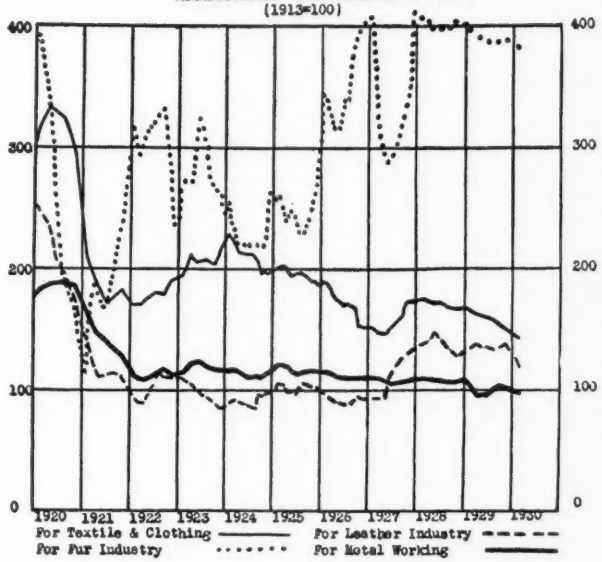
PRODUCERS' MATERIALS
Index Numbers of Prices
(1913=100)



PRODUCERS' MATERIALS
Building & Construction- Index Numbers of Prices
(1913=100)



PRODUCERS' MATERIALS
Manufacturers'-Index Numbers of Prices
(1913=100)



PRODUCERS' MATERIALS
Manufacturers'- Index Numbers of Prices
(1913-100)

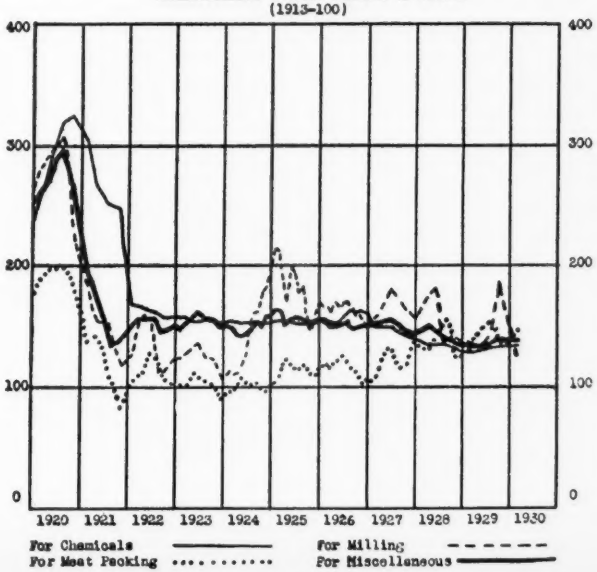


Chart Number Three divides producers goods into two main groups, viz., equipment and materials. Equipment, made up of power and tools and other factory products, has been relatively stable. Materials show extreme fluctuations, since most of them are produced in several countries and their prices are settled, not by the sales policy of a stable organization, but by supply and demand in the great commodity markets of the world. The fluctuations in wheat, cotton and sugar illustrate this. It is not out of the way for a change of 50 or 100 per cent. to occur in the price of such a raw material within a few months time, and in periods of economic unsettlement, as 1918-21, such a change may take place in the average for all materials. Since 1921 there has been little net change in average cost of all materials, though the fluctuations have been somewhat more pronounced than those of general commodity prices, since the latter include more finished products.

The Fourth Chart gives producers' equipment sub-divided into tools, light, heat and power, and miscellaneous. Here light, heat and power is found to be the most stable, for obvious reasons. It is interesting to note that after the cost of power came down, it stayed down, while with tools and miscellaneous equipment some advances have taken place.

The Fifth Chart shows producers' materials divided into two main groups—those for manufacturing and those for building and construction. The former fluctuate the most, and have come down sharply in recent months.

The Sixth Chart gives details of materials for the building and construction industry. Painters' materials, being a narrow class, have varied considerably. Lumber and miscellaneous materials show small changes for recent years.

The Last Two Charts give materials for eight important lines of manufacture. Naturally, wide contrasts are revealed. Furs advanced greatly, for instance. Hides and skins, for the leather industry, went up in 1927-28, but have declined a little since then. Animals, for meat packing, have advanced. With the majority, however, the trend has been downward.

CHAPTER NOTES

MONTREAL

D. R. Patton, C.A., Secretary

March 6, 1930:—

Montreal Chapter had a "real good party" on March 6th, when members and friends in a two hours' Talk-Fest rivalled their traditionally superior halves in that respect. Even at closing time no one wanted to go home, and it is rumoured that some of the disputes carried on "far into the night." Many first-class politicians were un-

covered, and they should be immensely welcome in the eruptions that have been rumoured in these parts.

Many questions had been listed for debate and for the expression of expert opinion, and the chief difficulty which the evening's chairman, Professor R. R. Thompson, encountered was to keep moving from one number to another. In fact, on some occasions he was forced to apply moral "closure" in order to make progress.

But there were some anxious moments—here were two aforetime cordial friends, Mr. Lorenzo Belanger, Past President of our Society, and Mr. D. M. Farish, Past Chairman (both members of our Board since the birth of our Society). These two stalwarts of Cost Accountancy absolutely refused to agree. Nothing could reconcile one to the views of the other; neither would be convinced. Through it all they were sitting side by side as contented as twins.

The debate was brisk, speaker following speaker without intermission, and usually prefacing his remarks with, "I entirely disagree with what Mr. Brown has just said"; or more diplomatically, "I am not altogether in accord with the views of the last speaker." Montreal members have a praiseworthy aptitude for expressing their own opinions, and they do not change them until they have been thoroughly convinced.

The topics discussed ranged from clothing to cables, from pickles to printing, from rum to radios, all as connected with Cost Accountancy or Cost Accountants. The variety served to illustrate the many activities and interests of the men who come together in a chapter meeting night after night.

One feature was noticeable, namely, the fact that the newer and younger members did not take as active a part as they might have done. Montreal Chapter has always encouraged free expression from all members, and from friends as well. There is no limit and all comment is heartily welcome at all times. Professor Thompson said that in his experience 99.9% of questions asked were good ones, and as the usual deterrent is the fear that expressions as given will not appear sufficiently well formed, this statement of the President might well be borne in mind.

So successful and interesting was the evening's experiment that the suggestion was put forward that in drafting up the programme for next session a topic should be allocated for general discussion on each night of meeting, in addition to the regularly scheduled paper.

March 20, 1930:—

Professor J. A. Coote, B.Sc., of McGill University, led the Montreal Chapter through the second half of its study on "Charts and Graphics in Relation to Cost Accounting," at the meeting of March 20th. Professor Coote illustrated with a large number of graphic slides and chart classifications which he had laid out and defined in his first lecture, namely:—

1. Those which show relationship between different Factors;
2. Those which are used to determine Laws and Relationships;
3. Those which show the relation existing between the various parts of an organization;
4. Those which are used for the Graphical Solution of Simple Complex Problems, and

5. Those which are used to record facts.

An interesting specimen which Professor Coote had made up in his study of Wage Rates was introduced as an example of the second class. The wages of men, based on the ratio of women workers employed in the plants, were plotted on logarithmic scale and the line of average drawn to show the general trend.

In the third class charts were shown illustrating the organization and control of the sundry operating departments of a concern properly related and fitted into the complete scheme. Others set out the opportunities for promotion of employees, the measure of efficiency or performance of machines, the determination of the starting date of the various activities concerned with the fulfillment of a contract, the time necessary for the manufacture and delivery of various products, and many others of equal practical value. One type that has been found very useful, where adopted, records the business history of the individual—his length of service, his performance, his efficiency, and other potent factors.

Continuous charts of the fifth class showed the setting up of records of boiler pressure; load on machines; voltage or current or power on electric supply lines; and many other important measurable quantities.

But it was the fourth class that led our men into difficulties. Not content with the application of these particular charts, the more thorough members wished to delve into the principle of their composition. Professor Coote kindly co-operated and supplied the mathematical data for the determination of sundry long and forbidding formulae. He was soon many miles ahead of the main body, and while most of us very correctly blamed our sorry condition on our poor memories for such things, yet there was no hesitation in agreeing that while it might be the function of a Professor to go thoroughly into the preparation of such complicated graphical works, the duty of the Cost Accountant was admirably fulfilled with their proper application.

After Professor Coote's most acceptable address, Mr. L. Belanger resigned his position as Master of Ceremonies in favour of the Vice-President, Mr. C. E. Whitten, for the purpose of transacting the annual business of the Chapter. The various items on the Agenda, more particularly concerning the appointment of the Board for the coming year, were disposed of with efficiency and dispatch. In conclusion it was unanimously agreed that the season's educational programme just completed had proved to be one of very high standing and of very real practical value.

This was also the annual meeting of Montreal Chapter, for which business C. E. Whitten occupied the chair. The officers elected are as follows:

Chairman: G. T. Bowden, The Steel Company of Canada Ltd.; Vice-Chairman, J. P. Masterson, Canadian Industrial Alcohol Company Ltd.; Treasurer: L. Rhodes, Consolidated Lithograph Manufacturing Company Ltd.; Secretary: H. W. Blunt, C.A., Fisk, Skelton & Co.; Directors: D. M. Farish, C.A., Northern Electric Co. Ltd.; F. Fernie, A. R. Whittall Can Company Ltd.; E. J. Loiselle, Canadian

International Paper Co. Ltd.; R. W. Louthood, Canada Power and Paper Co. Ltd.; D. R. Patton, C.A., R. Schurman & Co.; P. Probyn, C.A., Sherwin-Williams Company of Canada Ltd.; Jean P. Rolland, Rolland Paper Co. Ltd.; C. R. Racine, Charles E. Frosst & Co.; C. E. Whitten, Canadian Paperboard Co. Ltd.; P. W. Wright, Shawinigan Engineering Co. Ltd.

Representatives on Dominion Board: L. Belanger, C.G.A., C.P.A.; J. E. Carpentier, C.G.A.; G. C. Leroux, C.P.A., Dominion Income Tax Department; L. A. Peto, Canadian Car & Foundry Co. Ltd.; Prof. R. R. Thompson, M.C., V.D., A.C.A., C.A., McGill University.

TORONTO

H. J. McQuillan, Secretary-Treasurer

March 12, 1930:—

With thought of broadening the scope of the Society, the last two meetings dealing with plant engineering were timely.

Mr. W. G. Donaldson, A. T. Reid & Company; Mr. G. H. Houston, Rolph, Clark, Stone Limited; Mr. B. W. Lang and Mr. C. E. Shumaker, Goodyear Tire and Rubber Company, and Mr. R. W. Newth, Canada Printing Ink Company, spoke on Employment Problems and Labor Efficiency. A moving picture supplied by the Goodyear Company helped to make the evening of real worth to those fortunate enough to be there.

The general feeling of our speakers seemed to be that the problems under discussion were shorn of difficulties by proper use of modern methods under discussion. In one factory, employees must be selected with unusual care, owing to the particular requirements of each job. Here each job is carefully analyzed, and all experience recorded, in order to get a word photograph of the ideal operator in the records. Another interesting "slant" was effort made to eliminate sales, factory, or administrative "complexes." The result would be intelligent co-operation between members of the staff, through a general knowledge of the problems of each one.

Discussing strict adherence to rules, a member related an incident. Not long ago, a good many firms in and near this city, were figuring, tendering and all the rest of it, trying to get a building contract. Most of these firms apparently studied the specifications to the last comma, and their tenders were models of accuracy and propriety in accordance with the plans. The man to whom the contract was awarded paid little attention to the plans. He made his own proposals. They were accepted. He got the job.

Our meetings seem to say that we are not trying to work out a set of rules for any business, or any department of business activity. But if we as a Society, help to make new paths for Canadian Industry to travel along, we shall feel that we are a Society indeed.

At the annual meeting of Toronto Chapter, held on March 12, the following officers were elected:

Chairman: R. Oaten, Gurney Foundry Co. Ltd.; Vice-Chairman, K. A. Mapp, F.C.A., Henry Barber, Mapp & Mapp; Treasurer, H. A.

Shiach, F.C.A., Rutherford Williamson & Co.; Secretary, H. J. McQuillan, S. F. Stinson & Son; Directors: W. G. Donaldson, A. T. Reid Co. Ltd.; F. P. Higgins, F.C.A., Fred Page Higgins & Co.; T. S. Jardine, United Drug Co. Ltd.; W. M. Lane, Lever Bros. Ltd.; B. W. Lang, Goodyear Tire & Rubber Co. of Canada, Ltd.; D. C. Patton, Sangamo Electric Co. Ltd.; C. H. Pelling, C.A., Clarkson, Gordon, Dilworth, Guilfoyle & Nash; J. W. Spence, Canadian Kodak Co., Ltd.; R. F. Bruce Taylor, C.A., Edwards, Morgan & Co.

Representatives on Dominion board: J. E. Carruthers, Durant Motors of Canada Ltd.; H. E. Guilfoyle, F.C.A., Clarkson, Gordon, Dilworth, Guilfoyle & Nash; G. H. Houston, Rolph-Clark-Stone Ltd.; T. S. Jardine, United Drug Co. Ltd.; G. M. Mulholland, Thorne, Mulholland, Howson & McPherson; D. C. Patton, Sangamo Electric Co. Ltd.; Jas. Turner, C.A., T. Eaton Co. Ltd.

March 26, 1930:—

Toronto Chapter has one dinner meeting each year. Mr. R. Oaten, Gurney Foundry Company, Limited, our chairman, read a cable sent to Mr. D. C. Patton, in the West Indies. Mr. Patton certainly holds the respect and good wishes of each member. Mr. Oaten expressed satisfaction with the progress of our Society during the year, and in particular with the type of meetings.

Professor A. E. Allcut, Associate Professor of Mechanical Engineering, University of Toronto, gave a remarkable review of human progress from the engineering standpoint in his address, "The Uncommercial Engineer."

Inventions, rather than being a "burst" of genius, are the results of continuous activities of common mental processes. One definition of an engineer is "a fellow who can do for one dollar what any fool can do for two." On this point, and many others, the work of our Society seemed to make contact with the work described by the speaker. For an exposition of the art and science of "Cost Accounting and Management," you will find many valuable points in Professor Allcut's address.

Mr. H. E. Guilfoyle, F.C.A., Messrs. Clarkson, Gordon, Dilworth, Guilfoyle & Nash, expressed the gratitude and appreciation of the Chapter to Professor Allcut.

For the next few months the work of the Chapter will be carried on without any regular meetings. As the average Torontonian feels that he crowds twelve days activity into six, attendance at our meetings meant a sacrifice to many. Judging by the quality of papers submitted by so many of our friends during the Society's year, a great deal of time and effort were expended. The two members responsible for each meeting arranged meetings of the groups, and other details of organization.

Not a meeting has passed without expressions of satisfaction with the results obtained through them.

During the spring and summer months "Cost and Management" will remind members of what they collectively have achieved. It should help to supply the urge to higher achievement as a Society during the coming year.

HAMILTON

At the annual meeting of Hamilton Chapter, held on March 19, the following officers were elected for the ensuing year:

Chairman: G. E. F. Smith, C.A., Richardson, Smith, Ferrie & Company; Vice-Chairman: A. J. Mouncey, The Norton Company of Canada Ltd.; Secretary-Treasurer: A. E. Keen, C.A., Thorne, Mulholland, Howson & McPherson; Directors: Andrew Ballantyne, Firestone Tire & Rubber Co. of Canada Ltd.; N. V. Bechill, International Harvester Co. of Canada Ltd.; S. E. LeBrocq, The Steel Company of Canada Ltd.; M. I. Long, C. A., Clarke, Houston & Co.; M. W. Matchett, E. D. Smith & Sons Ltd., Winona; H. M. Ross, Mercury Mills Ltd.

Representatives on Dominion board: S. E. LeBrocq and M. I. Long, C.A.

WINNIPEG

T. E. Saul, C.A., Secretary-Treasurer

At the annual meeting of Winnipeg Chapter, held on March 17, the following officers were elected:

Chairman: John Parton, C.A., Geo. A. Touche & Co.; Vice-Chairman: E. J. Burleigh, Manitoba Rolling Mills Ltd.; Secretary-Treasurer: T. E. Saul, C.A., Dunwoody, Nicholl & Co.; Directors: H. Latter, Vulcan Iron Works Ltd.; N. P. H. Menlove, Parkhill Bedding Ltd.; W. W. McVey, C.A., MacDonald, McVey & Co.; S. R. Bates, International Business Machines Co., Ltd.

Representatives on Dominion Board: J. B. Sutherland, C.A., and J. Anderson, C.A.

CENTRAL ONTARIO

C. J. Heimrich, L.A., Secretary-Treasurer

September 10, 1929:—

The organization of our chapter was decided upon at a meeting held in the Y.M.C.A. on Tuesday, September 10th, at which representatives of a number of firms situated in Galt, Preston, Guelph, Waterloo and locally, were present.

The functions of the Society as a whole and the various chapter organizations were explained by Mr. W. A. McKague, the General Secretary, and Mr. T. S. Jardine and Mr. J. E. Carruthers of Toronto, and Mr. R. E. Love of Hamilton, directors of the Society.

Following their remarks there was some discussion and it was moved and seconded and carried unanimously that a chapter be formed in this district to be known as the Central Ontario Chapter.

Messrs. Tailby, Wilson and McKague were appointed a committee to appoint provisional directors, their choice being the following: C. T. Black and E. R. Scott of Galt, A. H. Schlegel of Preston, E. J. Miller of Waterloo, and C. J. Heimrich and Mr. E. Tailby of Kitchener.

October 10, 1929:—

The initial meeting of the newly organized Central Ontario Chapter, the first of the programme arranged by Mr. W. A. McKague, was held at the City Hall, Kitchener, on Thursday evening, October 10, on which occasion we were extremely fortunate in having as our speaker, Mr. S. E. Le Brocq, the Comptroller of the Steel Company of Canada. Mr. Le Brocq addressed us on "Industrial Accounting From a Practical Standpoint" in a very interesting and capable manner, and the discussion which followed was evidence of the interest of those who attended.

There were about 40 people present, quite a number who signified their intentions of joining the Society. From the active interest shown thus far and the good turn out at our first meeting it would seem that the decision to form a local chapter of the Society was a timely one, and we have every reason to feel encouraged insofar as the ultimate success of the Chapter is concerned.

November 21, 1929:—

The November meeting of our Chapter was held at Guelph on November 21, when through the kindness of Mr. B. F. Griggs, C.A., and Mr. Earnshaw, we were taken through the plant of the Guelph Carpet and Worsted Spinning Mills. The plant visit was made at about 4 p.m. when the party divided into two groups, one of which went through the spinning plant and the other the weaving plant, the various operations in each department being fully explained and proving of great interest.

Following this a recess was called and an adjournment made to the Wellington Hotel for supper, and at which time the Company, in the persons of their President, Mr. Quarmby, and also Mr. Griggs and Mr. Earnshaw, proved themselves most excellent hosts, providing for everyones needs in a manner that left nothing to be desired.

About 7.30 the meeting reassembled at the Company's offices, when Mr. Earnshaw gave us a description of the cost system being used by the Company, which proved to a good many of us that some of our own cost problems are not as bad as we sometimes think they are. Spinning and weaving are very complicated processes insofar as costing is concerned, and all who had the privilege of hearing Mr. Earnshaw's address benefited by it.

It was at this meeting that Mr. Miller established his reputation as a leader in asking questions, and it was also at this time that Mr. Earnshaw definitely and emphatically declared his convictions relative to standard costs.

Following Mr. Earnshaw's address and the discussion, Mr. B. F. Griggs, who is the Secretary-Treasurer of the Company, gave us a very interesting talk on the duties of a Cost Accountant.

At the opening of the meeting Mr. Tailby, who acted as chairman, called for the nomination of permanent officers, and it was moved by Mr. Voelker, and seconded by Mr. Dennis, that the provisional board appointed at the September meeting be permanently elected to complete the fiscal year ending February 28, 1930. This was carried unanimously. Mr. Earnshaw was added to the Board.

CHAPTER NOTES

November 21, 1929:—

Immediately following the general meeting at Guelph Mr. Tailby called a meeting of the new directors, at which all were present. Mr. Tailby acted as chairman, the purpose of the meeting being to appoint the officers of the Central Ontario Chapter. Mr. Tailby was requested to continue to act as Chairman and C. J. Heimrich was installed in the honorable and remunerative position of Secretary, which also combines the duties of Treasurer.

December 18, 1929:—

The meeting held at Galt, December 18, proved to be another example of the interest and co-operation of the manufacturers of this district in our Chapter, on which occasion the Board-room of Messrs. Babcock-Wilcox & Goldie-McCulloch, Limited, was placed at our disposal and which provided most excellent accommodation, one of the personal features being the box of cigarettes placed at the disposal of the Secretary, who did his best to consume the entire 50, but failed in this.

Mr. S. H. Sorley, C.A., of Thorne, Mulholland, Howson & McPherson, was our speaker for the evening, taking as his subject "Developing a Cost System," taking as his example one of the firms in which he had recently been engaged to install and develop a system. Mr. Sorley's address was received with a great deal of interest and a number of his statements brought forth a great deal of questions and discussion, so that the evening proved to be most profitable. Mr. Sorley has a very good knowledge of his subject and we are looking forward to again having him at a later meeting, which he signified he would be glad to do.

January 16, 1930:—

An informal meeting of the directors of the Chapter was held in the Walker House on January 16 to discuss with Col. Thompson, C.A., the President of the Society, the matter of changing the name of the Society, and also the classification of memberships. Col. Thompson explained that the Society admitted to their membership, plant engineers, industrial engineers, accountants and other similarly employed, but owing to the name of the Society suggesting only cost accountants it was felt that there probably were quite a number who were not availing themselves of the opportunity to belong and that it might be advisable to give serious consideration to the idea of changing the name so that the title would suggest the wide scope of its membership. The opinion of those present was in concurrence with this, it being generally expressed that practically all features of manufacturing are so closely allied to the keeping of the costs that it would be a benefit to include members representing the various branches.

In bringing up the subject of the classification of members, Col. Thompson pointed out that up to the present time the fee has been $20.00 for a Senior member and $5.00 for a Junior membership, and that a proposal had been made to reduce the fee to $15.00 and discontinue the Junior membership. This was discussed at some length, but it was decided that insofar as our Chapter was concerned we would not be in favor of such a change, the sentiment being that the Society would not gain in prestige by lowering the Senior fee.

The meeting then adjourned to the City Hall where the regular January meeting of the Chapter was being held.

January 16, 1930:—

There were 19 present at the January meeting to hear Col. Thompson, C.A., the President of the Society, give his address on "Launching a New Industry." Col. Thompson dealt with the various factors which have to be considered in commencing a new business, such as location, labor, power and assessability to markets, both in the purchasing of the material used in the manufacture of the product and for the sale of the finished product, pointed out that the ultimate success of any new venture was dependent on these various features, and that it was sometimes necessary to sacrifice one of them in order to gain another, in which case the more important one should of course be considered.

Col. Thompson's talk was of a nature somewhat different to what we have been having and was very much enjoyed by all those present.

The meeting adjourned after a vote of thanks moved by C. J. Heimrich and seconded by Mr. Scott.

February 13, 1930:—

The smallest turnout we have had up to date was present at the February meeting, there being only 12 to hear the address of Mr. H. F. Wilson, one of our own members, who had chosen as his topic "My Business is Different."

Mr. Wilson brought around in a very interesting manner the argument used by a great many of us, that our business is different, and therefore that the rules of success which apply to one business may not apply to ours, and he showed that with the proper thought and determination practically the same principles, though in somewhat modified form, apply more or less to all problems so that fundamentally our business is not different.

Mr. Wilson's address was much enjoyed, and it is regretted there were not more present to hear him. However, we are looking forward to having Mr. Wilson again at some later date.

The question of the Annual Meeting was then brought up, and it was unanimously decided to make it a Dinner Meeting and to appoint the following committee to be in charge of entertainment: Mr. Miller, Chairman; Mr. Smith and Mr. Slumkoski.

The Secretary then read a letter from Col. Thompson re suggestions for enlarging the name of the Society, and the Secretary was instructed to circularize members for suggestions for a new name and their opinion generally.

There later was also some discussion as to how we could make our own Chapter more useful in the matter of cost education, and at this juncture Mr. Wilson mentioned that the Research Foundation, under the Chairmanship of Sir Joseph Flavelle, had a fund available for educational purposes, and that he thought it might be possible to interest them in the Society and the work it is doing. This was left to be taken up at a later date.

March 13, 1930:—

Our dinner meeting on this date brought an attendance of about 30, and proved an entire success. The service provided by the Walper Hotel was entirely satisfactory, and the entertainment by Mr. Slumkoski and his charming little daughter, and the local talent arranged through our Chairman, were much appreciated.

In his talk on Costing in Relation to Export Business, the speaker of the evening, J. E. Carruthers of Durant Motors of Canada, Ltd., gave our members some thoughts to occupy them for many weeks, and a very lively discussion ensued, which had to be curtailed to complete the business of an annual meeting.

A widespread movement on the part of the directors to withdraw from office was over-ruled by the members-at-large, who unanimously voted them back for a year, on the ground that the Chapter was new and that the directors should continue in charge through the growing stage.

At a meeting of the board immediately following, Mr. Tailby was re-elected chairman, Mr. Earnshaw added as vice-chairman, and Mr. Heimrich as secretary-treasurer. The other directors are Messrs. Black and Scott of Galt, Miller of Waterloo, and Schlegel of Preston.

NEW MEMBERS

The following are new members of the Society:

Toronto Chapter

W. M. Ferguson, Goodyear Tire & Rubber Co. of Canada, Ltd., New Toronto.
H. M. Cole, Goodyear Tire & Rubber Co. of Canada, Ltd., Bowmanville.
G. F. Cossar, Willards Chocolates, Ltd., Toronto.
R. S. M. Ausman, Gurney Foundry Co., Ltd., Toronto.
W. R. Stevens, Roofers Supply Co., Ltd., Toronto.
R. H. Langlois, C. A., Tip Top Tailors, Ltd., Toronto.
W. H. Riley, Rapid-Grip, Ltd., Toronto.

Montreal Chapter

S. M. Barbour, The Goodyear Cotton Co. of Canada, Ltd., St. Hyacinthe.
Geo. Nicol, Amalgamated Electric Corp., Ltd., Montreal.
S. A. Sweeny, Bovril, Ltd., Montreal.
Jas. Cochrane, Darling Bros., Ltd., Montreal.
Geo. H. Ryan, Darling Bros., Ltd., Montreal.
J. D. Hannen, Congoleum Canada, Ltd., Montreal.
R. P. Egerton, C. A., The E. B. Eddy Co., Ltd., Hull.

Hamilton Chapter

W. A. S. Steele, Canada Crushed Stone Corp., Ltd., Hamilton.
G. H. Sheppard, International Business Machines Co., Ltd., Hamilton.

Winnipeg Chapter

W. T. Shane, The Strong-Scott Mfg. Co., Ltd., Winnipeg.
E. A. Warnock, North Star Oil, Ltd., Winnipeg.

COST LITERATURE

RECEIVED IN MARCH

TRAINING of Junior Executives. Gordon Wilson. Society of Industrial Engineers, February, 1930.

Value of Physical Examinations. Wm. Lynn Davis. Society of Industrial Engineers, February, 1930.

Economics of Production. Walter Rautenstrauch. Society of Industrial Engineers, February, 1930.

Some Results of Labor Co-operation. Edward S. Cowdrick. Society of Industrial Engineers, February, 1930.

Functional Requirements Determine Depreciation Policies. F. J. Knoeppel. Society of Industrial Engineers, February, 1930.

Accounting by Machine Methods. W. G. Robinson. National Association of Cost Accountants, February 15, 1930.

Budgeting and Forecasting in an Individual Company. J. H. Barber. National Association of Cost Accountants, February 15, 1930.

Responsibility of the Accountant for the Inventory. The Accountant, February, 1930.

Depreciation of Wasting Assets and its Annual Measurement. P. D. Leake, F.C.A. The Cost Accountant, February, 1930.

Computation of Simple-Hire and Hire-Purchase Rates. G. D. Bond, A.C.I.S. The Cost Accountant, February, 1930.

Selling Prices and Estimates. A. Jones, A.C.W.A. The Cost Accountant, February, 1930.

Scientific Management and Costing. E. A. Parker, A.B.S.I. The Cost Accountant, February, 1930.

Costing as an Aid to Economy. R. Beveridge. The Cost Accountant, February, 1930.

Cost Finding Statements. I. K. Berman, F.C.I. The Accountants' Journal, February, 1930.

Coke Oven and By-Product Costing. W. H. Davies. The Accountant, March, 1930.

Cost of Handling Merchandise Returns. The American Accountant, March, 1930.

Cost Accounting Recommended for Independent Retailers. The American Accountant, March, 1930.

Interpretation of Financial Statements for Purposes of Managerial Control. National Association of Cost Accountants Bulletin, March, 1930.

Cost Accounting for Manufacturing Industries. L. D. Crusoe. National Association of Cost Accountants, March, 1930.

Inventories, Their Preparation, Compilation and Valuation. R. H. Tuttle. National Association of Cost Accountants Bulletin, March, 1930.

Variability of Overhead Costs. D. D. Kennedy. The Journal of Accountancy, March, 1930.